

SWBAT: compare electricity to pumped water

Jan 4-7:20 AM

Welcome!!!

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SECA Physics
Thursday 27 February 2014

* Pick up:

- slip of paper (for later)
- get your concept sheet from the slot

Centering

Opening Questions:

What else "flows" besides electric charge?

RIVER/WATER

RHYMES

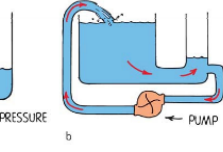
THOUGHTS

ENERGY

AIR
LAVA
BLOOD

Sep 7-7:04 AM

Pressure



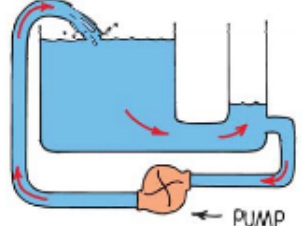
b. Water continues to flow because a difference in pressure is maintained with the pump.

t: 6 rows total

An electron is $1.6 \times 10^{-19} \text{ C} = .000000000000000000016 \text{ C}$

	Meaning	Symbol	Units	Analogy
CHARGE	PROPERTY OF PROTONS & ELECTRONS THAT CAUSES ATTRACTION & REPULSION	q	COULOMBS C	WATER WATER ITSELF
VOLTAGE =ELECTRIC POTENTIAL	POTENTIAL BASED ON POSITION IN AN ELECTRIC FIELD "PUSH"	V	VOLTS V $V = \frac{J}{C}$	- PUMP - PRESSURE DIFFERENCE - HEIGHT
CURRENT	THE FLOW OF ELECTRIC CHARGE $= \frac{\text{CHARGE}}{\text{TIME}}$	I $I = \frac{q}{t}$	AMPERE A $1A = \frac{1C}{s}$	FLOW OR MOTION OF WATER $\frac{q}{I \cdot t}$

Feb 23-7:34 AM



b. Water continues to flow because a difference in pressure is maintained with the pump.

CURRENT? VOLTAGE?
WHY DO YOU SAY THAT?

Water analogy -- using "Numbered Heads Together"

- In groups, count off
- As a group, discuss the questions and have a "group" answer
- Any person in the group should be able to tell the class the group's answer
- I will pick a number, and that person will be called on to explain what the group decided.

What in the water example is like current? What is like voltage?
WHY do you say that???

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Worksheet 34-1

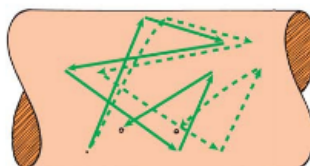
- alone or with another person
- use your yellow concept sheet
- some questions will be on Daily 3

Feb 27-7:30 AM

"Current" misconceptions...

FIGURE 34.14 ▶

The solid lines depict a random path of an electron bouncing off atoms in a conductor. The dashed lines show an exaggerated view of how this path changes when an electric field is applied. The electron drifts toward the right with an average speed less than a snail's pace.



Feb 23-7:43 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP Hmwk - does voltage cause current or does current cause voltage? Defend your answer.

Your can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. What are the (SI) **units** for voltage?

V, VOLTS

2. What in the water analogy is like current?

FLOW OF WATER

3. When a charge of 15 C flows by a place each second, the current is 15 A.

Feb 18-6:59 AM